

REMARKS

Claims 1-9 are pending in this application.

Rejection of Claims 1, 2, 7, and 8 under 35 USC § 103

Claims 1, 2, 7, and 8 are rejected under 35 U.S.C. 103(b) as being unpatentable over Eggers et al. (U.S. Patent No. 5,910,996) in view of Kaizer et al. (U.S. Patent No. 4,649,565).

The present claimed invention recites a method and audio reproduction apparatus including a plurality of audio amplifiers. Each amplifier is responsive to a corresponding audio signal for generating audio power in a corresponding audio speaker. The device selectively applies a supply voltage to a first of the audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second of the audio amplifiers is higher. The device selectively applies a supply voltage at a higher magnitude to the first audio amplifier, in a second mode of operation, when the audio power generated in the second of the audio amplifiers is lower. As a result the total audio power generated is reduced when a change in the mode of operation occurs. Claim 1 is an apparatus claim and claim 7 is a method claim. Both claims disclose the above stated limitations.

Eggers et al. disclose a dual audio program system that provides switching circuitry for selecting two signals from two or more sources of input audio programs for amplification. A volume control circuit provides for selectively adjusting the volume levels for foreground and background programming channels. The circuitry also provides for interchanging the foreground and background programs either instantaneously or gradually and continuously.

Eggers et al. neither disclose nor suggest “selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio

amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in said second audio amplifier is lower” as in the present claimed invention. Eggers et al. is also not concerned with the object of reducing the “change in a total audio power generated, when a change in the mode of operation occurs” as is the present claimed invention. Eggers et al. is concerned with allowing a user to listen to multiple audio programs at a single time thereby allowing concentration for limited times on each program. The Examiner cites the interchanging of foreground and background programs by Eggers et al. as reciting “selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in said second audio amplifier is lower” as in the present claimed invention. It is respectfully submitted that the increasing or decreasing the volume of an audio program in Eggers et al. is not the same as providing a lower or higher supply voltage to an amplifier as in the present claimed invention. In Eggers et al., the supply voltage provided to the speakers of the system is constant as is the number of speakers being utilized. The present claimed invention is concerned with altering the number of speakers used during different modes. When the number of speakers being utilized changes, the total audio power output of the speakers also changes. The present claimed invention provides for a constant total audio power for the system regardless of the number of speakers being utilized thereby allowing for a smaller voltage drop across the output or driver stage of the amplifier and less power dissipation. Such is neither disclosed nor suggested by Eggers et al.

Kaizer et al. disclose a device for converting an electric signal into an acoustic signal, comprising an electro-acoustic transducer unit having a quality factor less than unity. The device also comprises an amplifier circuit for driving the transducer unit. The amplifier circuit has a frequency-dependent gain characteristic which increases towards the lower frequencies. The object of Kaizer et al. is to provide a highly efficient device for converting an electric signal into and acoustic one.

Kaizer et al., similarly to Eggers et al., also neither disclose nor suggest “selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in said second audio amplifier is lower” as in the present claimed invention. Kaizer et al. disclose an amplifier circuit which has a frequency-dependent gain characteristic while the present claimed invention discloses an amplifier which has an audio power-dependent gain characteristic. Kaizer et al., similarly to Eggers et al., is also not concerned with the object of minimizing/reducing the “change in a total audio power generated, when a change in the mode of operation occurs” as is the present claimed invention. The Examiner cites “an amplifier having a supply voltage which depends on the drive level of the amplifier” (Kaizer et al., column 8, lines 9-10) as disclosing an amplifier having a supply voltage which depends on the volume. It is respectfully submitted that an amplifier having a supply voltage which depends on the drive level of the amplifier is not the same as providing a lower or higher supply voltage to an amplifier “in a manner to reduce a change in a total audio power generated, when a change in the mode of operation occurs” as in the present claimed invention. Kaizer et al. are concerned with amplification to compensate for frequency response characteristics. The present claimed invention is concerned with altering the number of speakers used during different modes. When the number of speakers being utilized changes, the total audio power output of the speakers also changes. The present claimed invention provides for a constant total audio power for the system regardless of the number of speakers being utilized thereby allowing for a smaller voltage drop across the output or driver stage of the amplifier and less power dissipation. Such is neither disclosed nor suggested by Kaizer et al.

In view of the above remarks, it is respectfully submitted that Eggers et al. and Kaizer et al. all neither disclose nor suggest “selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when

the audio power generated in said second audio amplifier is lower” as claimed in claim 1 of the present invention.

Additionally, there is also no motivation or reason to combine a dual audio program system as disclosed by Eggers et al. with an electro-acoustic converter with compensated frequency response characteristic as taught by Kaizer et al., since neither of the references address the specific problem of selectively applying a supply voltage to a first audio amplifier of the audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of the audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in then second audio amplifier is lower. As independent claim 7 includes limitations similar to those discussed above regarding claim 1, it is respectfully submitted that this claim is allowable for the same reasons as claim 1. As claims 2 and 8 are dependent on claims 1 and 7, respectively, it is respectfully submitted that these claims are likewise allowable.

In view of the above remarks to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in either Eggers et al. or Kaizer et al. showing the above discussed features. It is thus further respectfully submitted that claim 1 is not anticipated by Eggers et al. in view of Kaizer et al. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claim 5 under 35 USC § 103(a)

Claim 5 is rejected under 35U.S.C. 103(a) as being unpatentable over Eggers et al. as applied to claim 1 above in view of Meisenheimer (U.S. Patent No. 4,560,838).

Meisenheimer discloses a system for selectively connecting one of a plurality of audio inputs to an audio output. Each audio input of Meisenheimer is tied to a corresponding variable voltage input. Upon switching between audio inputs supplied to an amplifier, Meisenheimer switches the corresponding variable voltage input to the amplifier. Similarly to Eggers et al., Meisenheimer neither discloses nor suggests

“selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in said second audio amplifier is lower” as in the present claimed invention.

Additionally, there is no motivation or reason for combining the systems of Eggers et al. and Meisenheimer to include the features of the claimed arrangement, since none of the references address the specific problem of switching between modes using more or fewer speakers and the adjustment of the output volume when changing between modes while providing an efficient technique for managing power dissipation when switching between modes.

In view of the above remarks to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Eggers et al. or Meisenheimer showing the above discussed features. It is thus further respectfully submitted that claim 5 is not anticipated by Eggers et al. in view of Meisenheimer. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Rejection of Claim 6 under 35 USC § 103(a)

Claim 6 is rejected under 35 U.S.C.103(a) as being unpatentable over Eggers et al. as applied to claim 1 above in view of Morris, Jr. et al. (US Patent No.5,200,708).

Morris, Jr. et al. disclose an apparatus for the virtual expansion of the power providing capacity of a power supply. A plurality of amplifiers, each having an adjustable gain, are powered from the power supply. When additional amplifiers are activated, the total amount of power drawn by all of the amplifiers can exceed a predetermined level which corresponds to the original plurality of amplifiers. However, when it is sensed that the total amount of power drawn exceeds the predetermined level, the gain of all of the amplifiers is reduced so that the power drawn from the power supply does not exceed the predetermined level. The Examiner cites Morris, Jr.

et al. to show use of a common power supply. The Examiner claims a plurality of amplifiers (18L, R, C, and S) along with a common power supply 24 to show this limitation. Morris, Jr. et al., however, neither disclose nor suggest “a common power supply having a power rating that is determined by the total audio power produced in each of said first and second amplifiers” as claimed in claim 6 of the present invention. Additionally, Morris, Jr. et al. (with Eggers et al.) neither disclose nor suggest “selectively applying a supply voltage to a first audio amplifier of said audio amplifiers at a lower magnitude, in a first mode of operation, when audio power generated in a second audio amplifier of said audio amplifiers is higher, and at a higher magnitude, in a second mode of operation, when the audio power generated in said second audio amplifier is lower” as in the present claimed invention.

Additionally, there is no motivation or reason for combining the systems of Eggers et al. and Morris, Jr. et al. to include the features of the claimed arrangement, since neither of the references address the specific problem of switching between modes using more or fewer speakers and the adjustment of the output volume when changing between modes while providing an efficient technique for managing power dissipation when switching between modes.

In view of the above remarks to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Eggers et al. or Morris, Jr. et al. showing the above discussed features. It is thus further respectfully submitted that claim 5 is not anticipated by Eggers et al. in view of Morris, Jr. et al. It is thus, further respectfully submitted that this rejection is satisfied and should be withdrawn.

Having fully addressed the Examiner's rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Application No. 09/805,342

Attorney Docket No. PU010026

No fee is believed due with this response. However, if a fee is due, please charge the fee to Deposit Account 07-0832.

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I hereby certify that this amendment is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

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